



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/823,968

04/13/2004

Dieter Winkler

002935 C1 USA/PDC/ICT

5313

7590

02/08/2005

APPLIED MATERIALS, INC.
PATENT COUNSEL, MS/2061
Legal Affairs Department
P.O. Box 450A
Santa Clara, CA 95052

EXAMINER

FERNANDEZ, KALIMAH

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/823,968

Applicant(s)

WINKLER ET AL.

Examiner

Kalimah Fernandez

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 is/are allowed.
- 6) ☒ Claim(s) 2,5 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2 and 5-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation "a plurality of minicolumn^s non-translatably positioned orthogonal to the stage" was not originally

disclosed. *The minicolumns in fig. 7A and 7B are "translatably" positioned since the mounting structure translates them relative to the stage.*

3. Claims 2 and 5-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s)

contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. While the specification discloses a plurality of minicolumn tilted with respect to the

stage, the original specification fail to describe a plurality of minicolumns

= non-translatable //
positioned orthogonal to the stage as in claim 2.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,933,211 issued to Nakasugi et al and US Pat No 6,091,249 issued to Talbot et al.

6. Nakasugi et al disclose a plurality of minicolumn non-translatably positioned orthogonal to the stage (col.7, lines 38-65; see fig. 12).

7. Nakasugi et al disclose a stage (16) housed in a main chamber (15).

8. Nakasugi et al does not disclose the main chamber connected to a vacuum pump and a load lock.

9. However, Talbot et al disclose a vacuum chamber (10) and loadlock (34).

10. It would have been obvious to an artisan having ordinary skill at the time to combine Nakasugi et al and Talbot et al because Talbot et al disclose loadlocks reduces the number times one needs to break the vacuum.

11. As per claim 6, Nakasugi et al disclose the minicolumns housed in a main chamber (fig. 21).

12. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,981,962 issued to Groves et al and US Pat No 5,912,096 issued to Hada et al.

13. Groves et al disclose a plurality of minicolumn non-translatably positioned orthogonal to the stage (see fig.2).

14. Groves et al does not disclose a main chamber connected to a vacuum pump and a load lock.

15. However, the use of a load lock is widely known in the art as illustrated in Hada. It is indeed conventional to employ a load lock chamber in electron beam apparatus, which necessarily require relatively high vacuum condition as described in col.1, lines 17-57 of Hada. Therefore, it would have been obvious to an artisan having ordinary skill in the art

modify Groves by employing a load lock because the advantages of a load lock system are notoriously known in the art as described in Hada.

16. As per claim 5, Groves et al disclose a lens arrangement having a plurality of electrode and insulating layers (col.12, lines 37-60).

Allowable Subject Matter

17. Claim 1 is allowed. The following is an examiner's statement of reasons for allowance: the prior art of record fails to teach or obviously suggest, " a vacuum pump situated inside the main vacuum chamber and external to and connected to the minicolumn."

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

18. Applicant's arguments with respect to claims 2 and 5-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Pat No 4,974,736 issued to Okunuki et al, US Pat No 4,764,818 issued to Crew, US Pat No 6,522,776 issued to Ehrichs, and US Pat No 5,319,198 issued to Wada are considered relevant to the claimed invention.

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the date of this final action.

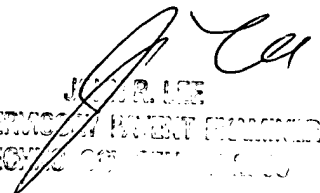
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 571-272-2470. The examiner can normally be reached on Mon-Tues 6:30-3:30; Wed-Thurs 8-5 and Fri.9am-6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KF


JOSEPH A. LEE
SUPERVISOR, PATENT EXAMINER
TECHNICAL CENTER 1000